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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/364,788	07/30/1999	BENJAMIN N. ELDRIDGE	P84-US	9878

7590 03/06/2003

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EXAMINER	
NGUYEN, SON V	
ART UNIT	PAPER NUMBER
2839	

DATE MAILED: 03/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



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Office Action Summary

Application No.
09/364,788

Applicant(s)
Eldridge et al.

Examiner
Son Nguyen

Art Unit
2839



— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 17, 2002
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 58-79 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 58-79 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 12 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 76-79 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not supported in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The subject matter of "*said shorting layer being provided between said conductive layer and said surface of said substrate.*" in claims 76-78, which were not supported in the specification and the drawings.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 58-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art in figures 1A-1B (hereinafter APA') and Grabbe et al. (US 5,152,695).

5. Regarding claims 58-64, 66-73 and 75, APA' discloses an electronic component [figure 1B] comprising:

- a substrate [not label] having a conductive area [122] connected to a terminal, and a semiconductor integrate circuit [120];

- a passivation layer [121] disposed on a surface of the substrate, wherein the passivation layer having an opening at the conductive area of the substrate;

- at least one electrically conductive layer [123] disposed on the passivation layer and on the conductive area;

- a plurality of resilient, conductive contact structure [110, figure 1A] each comprising a base portion [not label] electrically coupled through the electrically conductive layer to the conductive area [figure 1B], a tip portion [181-184] displaced away from the substrate and the conductive area, and a beam portion [127] having a width and length integrally connected between the base and the tip portion;

- the tip portion comprises a pointed end [185]

- the contact structure comprises a plurality of metal layers [125, 126];

- a second substrate including a conductive contact element [not shown] in physical contact with the tip portion [185] of the contact structure [110];

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APA' discloses the instant claimed invention except for the width of the beam portion decreases along the length from the base to the tip portion, the tip portion comprises a beveled peripheral edge.

Grabbe et al. discloses a contact structure [22, figure 4] comprising a tapered beam portion having a width decreases along a length of the beam portion from a base [38] to a tip portion [34], wherein the tip portion comprises a beveled peripheral edge.

It would have been obvious to one having ordinary skill in the art at the time invention was made to modify the contact structure of APA' to provide the tapered beam portion as taught by Grabbe et al. in order to provide a substantially constant deflection and stresses along the beam portion and to save the material.

6. Regarding claims 65 and 74, Grabbe et al. discloses the instant claimed invention including a pitch of two adjacent contact elements having a range of 20-12- microns [column 8, lines 44-45]. However Smith et al. does not disclose the pitch having a range of 2.5-2000 microns. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the pitch range of the two adjacent element contacts of Smith et al. to have a range of 2.5-2000 microns in order to accommodate with a fine corresponding pitch of mating contacts of the another substrate, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

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7. Claims 76-79, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over APA' and Grabbe et al. and Franklin et al. (US 6,235,544).

APA' and Grabbe et al. discloses the instant claimed invention except for a seed layer and a shorting layer disposed on the substrate.

Franklin et al. discloses a seed layer and a shorting layer disposed on the substrate [column 7, lines 30-50].

It would have been obvious to one having ordinary skill in the art at the time invention was made to modify the substrate of APA' to provide the seed and shorting layers as taught by Franklin et al. for the purpose of generating a conductive layer with a low resistance contact and electrically isolating between contact structures mounted on the substrate, respectively.

Response to Arguments

8. Applicants have no argument with respect to the previous office action 12/18/01. The amended claims 58 and 67, and new added claims 76-79 have been considered but are moot in view of the new ground(s) of rejection.

APA' and Grabbe et al. shows applicant claimed an electronic system (see the rejection described above).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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a shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son Nguyen whose telephone number is (703) 308-8745.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus, can be reach on (703) 308-3119. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1782 .

Son Nguyen 

July 20, 2002


BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800